

Reuse Working Group – Report Back

Co-chairs:

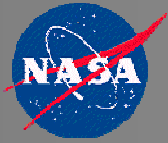
Robert Wolfe, NASA GSFC

Vic Delnore, NASA LRC

6th Earth Science Data Systems Working Group
Meeting

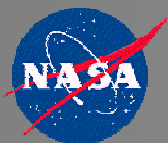
Philadelphia, PA

October 23 - 25, 2007



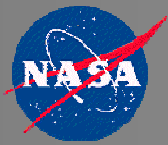
Reuse Summary

- Reuse Readiness Level (RRL) discussion
 - Developed summary RRLs
- Invited speaker: Michael Leyton, Rutgers University
 - A Generative Theory of Shape / A Mathematical Theory of Reusability
- Joint WG sessions
 - Feedback from full WG on RRLs
 - Demonstration of prototype Reuse Enablement System (RES)
 - Posters on Reuse Case Studies and RRLs
- Discussed feedback on RES prototype demonstration and RRLs
 - RES: formal policies needed
 - RRL: perform case studies; path to maturing RRL needed
- Joint breakout on RRLs with Technology Infusion WG
 - RRL vs. Hype Curve; RRL and Security
- Planning for 2008
- Elections for WG chairs
 - Elected Al Fleig as new co-chair



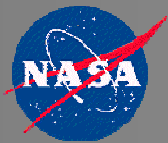
Draft Reuse Readiness Levels

RRL	Level Summary
1	No reusability – software is not reusable
2	Initial reusability – software reuse is not practical
3	Basic reusability – software might be reusable by skilled users at substantial effort, cost and risk
4	Reuse is possible – software might be reused by most users with some effort, cost and risk
5	Reuse is practical – software could be reused by most users with reasonable cost and risk
6	Software is reusable – software can be reused by most users although there may be some cost and risk
7	Software is highly reusable – can be reused by most users with minimum cost and risk
8	Demonstrated reusability – software has been reused by multiple users
9	Proven reusability – software is being reused by many class of user over a wide range of system



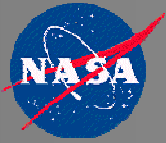
- Reuse Enablement System (RES)
 - ***Complete and submit architecture study – being submitted***
 - Develop implementation plan – prototype plan done, need plan for external deployment
 - ***Continue developing and testing prototype – build 2 is done, expect to finish by Spring 2008***
 - Deploy the prototype for NASA internal use
 - ***Develop and vet RES policies (internal and external)***
- Reuse portal web site
 - Provide more content and keep up to date
 - Promote portal to community

Higher priority



- Provide incentives for reuse
 - ***Develop peer recognition process – follow through on Kathy's recommendation to follow NASA's award process***
 - Work on recommendation/justification for HQ to develop a funding opportunity to make assets/components reusable (within the ES community)
- Metrics/measurements
 - Continue to generate/analyze statistics for portal web site
 - ***Assess effort required to package assets for reuse***
 - Also quantify benefits of open source release of assets
 - Tech. trans. guidelines process and case studies (for GSA poster) done → still need work on small components, small vs. big process – are they different?

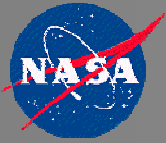
Higher priority



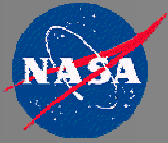
Plan for 2008 – Tasks (3 of 3)

- Promote reuse
 - Continue publications in journals and presentations at conferences
 - Prototype a process for facilitating reuse through mentoring – including IP issues
 - ***Continue developing reuse readiness level scale → work with Tech. Inf. WG, create a RRL calculator***
- Policy
 - ***Continue working with Office of Technology Transfer to facilitate software release process → work to understand and change the process – lower the barrier(s) for certain types of S/W***

Higher priority



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- Reaching out to other ES domains (e.g., modeling community – ESMF, National Forum for Geoscience Information Technology – FGIT, NOAA, EPA, ESIP, etc.)



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- Software Reuse Portal Web Site
 - <http://www.esdswg.org/softwarereuse>
 - Collaboration Web Site
 - <http://www.sciencedatasystems.org/reuse/default.aspx>
 - Mailing List
 - Send e-mail to Support Contacts (below)
 - Monthly Telecons
 - Third Wednesday of the month @ 2 pm Eastern time
 - Support Contacts
 - Jim Marshall (james.marshall@nasa.gov)
 - Ryan Gerard (ryan.gerard@nasa.gov)